

particle size, 330 Å pore, 4.6 mm ID x 25 cm L in a solvent of 40 mM acetic acid in methanol/water (58/42; v/v) at a flow rate of 1 ml/minute.

44. The substantially QA-18 saponin of claim 43, wherein said saponin has immune adjuvant activity, and wherein said saponin is characterized by a carbohydrate content of about 25-26% per dry weight as assayed by anthrone, has a UV absorption maxima of 205-210 nm, has a micellar concentration of 0.04% (w/v) in water and 0.02% (w/v) in phosphate-buffered saline, and causes hemolysis of sheep red blood cells at concentrations of 25 µg/ml.

45. The substantially pure QA-18 saponin of claim 44, wherein said carbohydrate content has a composition comprising the monosaccharides: terminal rhamnose, terminal arabinose, terminal apiose, terminal xylose, terminal glucose, terminal galactose, 2-fucose, 3-xylose, 3,4-rhamnose and 2,3-glucuronic acid.

REMARKS

Applicants' representative wishes to thank Examiner Carson for the helpful interview granted him on October 30, 1990. The Examiner's suggestions and helpful discussion are appreciated.

Claims 29-38 and 40-45 remain in the application. Claim 39 has been cancelled. Claims 29, 30-33, 36 and 37 have been amended. New claims 40-45 have been added. Support for the amendments and new claims can be found in the specification,

particularly at pages 12-15. No new matter has been entered by way of amendment.

The amendments are made to particularly point out and distinctly claim the subject matter. The amendments remove any objections the Examiner had to the claims under 35 U.S.C. § 112, second paragraph, in the Official Action of February 26, 1990, of the parent case, Serial No. 07/200,754.

In the Official Action of February 26, 1990, claims 29-35 were rejected under 35 U.S.C. § 102(a) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Higuchi et al. (Phytochemistry 26:229-235). Applicants' arguments filed November 22, 1989, with a Declaration under 37 C.F.R. § 1.132 filed December 1, 1989, were not deemed to be persuasive by the Examiner.

Claims 29-35 are drawn to substantially pure saponins. While Applicants assert that the claimed substantially pure saponins are distinct from the products disclosed by the Higuchi et al. reference, Applicants submit with this Amendment a copy of an unexecuted Declaration under 37 C.F.R. § 1.131. The original executed Declaration will be hand-delivered to the Examiner in due course. The Declaration establishes that prior to the December 16, 1986, Applicants had extracted and isolated substantially pure saponins having all the characteristics of the claimed saponins.

Applicants have asserted a date prior to December 16, 1986, in the 37 C.F.R. § 1.131 declaration, as that is the date which the volume containing the Higuchi et al. article was mailed to

the public. This date was verified with Pat Brackett at Pergamon Press in N.Y. on November 1, 1990.

As set forth in the Declaration, prior to December 16, 1986 date, a refractive index profile of dialyzed, methanol-solubilized Quillaja bark extract had been produced by reverse phase-HPLC. Further, it was demonstrated that the refractive index peaks of the bark extract corresponded to carbohydrate peaks.

Therefore, Applicants' statements and exhibits demonstrating the isolation of substantially pure saponins prior to December 16, 1986, indicate that prior to the date that the reference was available to the public, Applicants had, in this country, isolated substantially pure saponins having the characteristics as set forth in the claims. Accordingly, the claims should be deemed free of the cited art.

Applicants request that the inventive entity of the above-referenced patent application be changed to reflect that of parent application serial no. 07/200,754. That is, Charlotte A. Kensil and Dante J. Marciani should be listed as the inventive entity of the present application. It is noted that on November 22, 1989, a petition and amendment under 37 C.F.R. § 1.48(b) was filed in the parent application serial no. 07/200,754 requesting that inventorship of the application be changed by deleting the names of Gerald A. Beltz and Chung-Ho Hung. A copy of the petition and amendment are included with this preliminary amendment.

Applicants enclose herewith a copy of the European Search Report which was issued for the European application which

corresponds to the above-referenced patent application. Also enclosed is a copy of the reference and a PTO Form 1449. Applicants request that the Examiner initial and date the PTO Form 1449 and return a copy for Applicants' records.

In view of the above amendments and remarks, it is submitted that this application is now ready for allowance. Early notice to this effect is earnestly solicited.

If in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (202) 466-0800.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX



W. Murray Spruill
Agent for Applicants
Registration No. 32,943

Date: 11/2/90

1225 Connecticut Avenue
Washington, D.C. 20036
(202) 833-7533

P105-15.WP5